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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR     | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|--------------------------|---------------------|------------------|
| 10/662,319      | 09/16/2003  | Alexander Vincent Danilo | 00169.002728.       | 9258             |

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| EXAMINER |
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DHINGRA, PAWANDEEP

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| ART UNIT | PAPER NUMBER |
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2625

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08/18/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |   |  |  |
|------------------------------|---|--|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/662,319    | <b>Applicant(s)</b><br>DANILO, ALEXANDER VINCENT |  |
|                              | <b>Examiner</b><br>PAWANDEEP S. DHINGRA | <b>Art Unit</b><br>2625                          |  |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 July 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 17 and 19-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 17, 19-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

- This action is responsive to the following communication: Request for Continued Examination (RCE) filed on 7/13/2009.
- Claims 17 and 19-22 are pending.

### ***Response to Arguments***

Applicant's arguments filed 7/13/2009 have been fully considered but they are not persuasive.

Applicant argues that both Moore and Okubo fail to teach at least one non-intersecting edge replaces a plurality of overlapping input edges, with the non-intersecting edge being shared by more than one non-overlapping graphic object as recited in claim 17.

In reply, examiner asserts that Okubo teaches at least one non-intersecting edge (B and MASK(D or C)) replaces a plurality of overlapping input edges (overlapping input edges of objects B, C, D shown in fig. 3), the non-intersecting edge being shared by more than one non-overlapping graphic object (edge (B and MASK(D or C)) is shared by non-overlapping objects B, C, D of fig. 2, see figs. 2-3, paragraphs 50-56).

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action

Art Unit: 2625

has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/13/2009 has been entered.

### ***Examiner Notes***

Examiner cites particular columns and line numbers in the references as applied to the claims below for the convenience of the applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested that, in preparing responses, the applicant fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 17 and 19-22 are rejected under 35 U.S.C. 103 as being unpatentable over Moore, US 2002/0015039 in view of Hiroshi Okubo, JP 11-073516.

Re claim 17, Moore discloses a method of rendering an image (see title), comprising a plurality of overlapping graphic objects (see figure 8, it has two overlapping objects blue and red, paragraphs 62-63), said method comprising the steps

Art Unit: 2625

of: generating a list of input edges in accordance with a plurality of boundaries of the plurality of overlapping graphic objects, wherein some of the input edges are overlapping (see fig. 11, paragraphs 62-64) (also see paragraphs 67-79).

Okubo teaches producing a list of non-intersecting edges [new graphic edge list, B and MASK(DorC)] from the list of input edges on a per-scan-line basis (see paragraph 58 for processing per scanning line basis) (see fig. 2-3, paragraphs 52, 56), (also see 53-55); and rendering the image based on the produced list of non-intersecting edges (see paragraphs 52-56, note target graphic is rendered based on both edge list and mask edge), wherein the non-intersecting edges form a plurality of boundaries (outlines) of a plurality of non-overlapping graphic objects (graphic objects A, B, C, D, fig. 2) that are visually equivalent to the plurality of overlapping (fig. 3 shows overlapping objects) graphic objects (see figs. 2-3, paragraphs 52, 54, 56, note that non-intersecting edge (B and MASK(DorC)) form the outline of non overlapping object B as shown in fig. 2, which is equivalent to the one shown for overlapping graphic objects in fig. 3. The non-intersecting edges for objects A, C, D shown in fig. 2 work in similar manner); at least one non-intersecting edge (B and MASK(DorC)) replaces a plurality of overlapping input edges (overlapping input edges of objects B, C, D shown in fig. 3), the non-intersecting edge being shared by more than one non-overlapping graphic object (edge (B and MASK(DorC)) is shared by non-overlapping objects B, C, D of fig. 2, see figs. 2-3, paragraphs 50-56). Okubo also teaches a plurality of overlapping graphic objects (see figure 3, it shows four overlapping graphic objects, A, B, C & D); generating (creating) a list of input edges [mask edge list, MASK(DorC)] in accordance with a plurality of

Art Unit: 2625

boundaries (outlines) of the plurality of overlapping graphic objects, wherein some of the input edges are overlapping (see figs. 2-3, paragraphs 52-56).

Therefore, it would have been advantageous to modify the method of rendering graphic objects as disclosed by Moore to include the overlapping graphic processing techniques as taught by Okubo for the benefit of increasing processing speed and reducing memory consumption as taught by Okubo in abstract. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention to combine the system of Moore with the system of Okubo to reach the aforementioned advantage.

Re Claim 19, Moore discloses an apparatus for rendering an image (rendering apparatus, fig. 3, paragraph 23) comprising a plurality of overlapping graphic objects (see figure 8, it has two overlapping objects blue and red, paragraphs 62-63), said apparatus comprising: generating means (display list generation 12, fig. 2, “the display list generation 12 is preferably implemented as a software module executing on the host processor 2”, paragraph 66) for generating a list of input edges in accordance with a plurality of boundaries of the plurality of overlapping graphic objects, wherein some of the input edges are overlapping (see fig. 11, paragraphs 62-64) (also see paragraphs 67-79).

Okubo teaches producing means (overlapped graphics processor 14, drawing 1, paragraph 47, note that processor 14 performs all the steps of drawings 2-3, also see paragraphs 42-46) for producing a list of non-intersecting edges [new graphic edge list, B and MASK(DorC)] from the list of input edges on a per-scan-line basis (see paragraph 58 for processing per scanning line basis) (see fig. 2-3, paragraphs 52, 56); and

Art Unit: 2625

rendering means (overlapped graphics processor 14, drawing 1, paragraph 47, note that processor 14 performs all the steps of drawings 2-3, also see paragraphs 42-46) for rendering the image based on the produced list of non-intersecting edges (see paragraphs 54, 56, note target graphic is rendered based on both edge list and mask edge), wherein the non-intersecting edges form a plurality of boundaries (outlines) of a plurality of non-overlapping graphic objects (graphic objects A, B, C, D, fig. 2) that are visually equivalent to the plurality of overlapping (fig. 3 shows overlapping objects) graphic objects (see figs. 2-3, paragraphs 52, 54, 56, note that non-intersecting edge (B and MASK(D or C)) form the outline of non overlapping object B as shown in fig. 2, which is equivalent to the one shown for overlapping graphic objects in fig. 3. The non-intersecting edges for objects A, C, D shown in fig. 2 work in similar manner); at least one non-intersecting edge (B and MASK(D or C)) replaces a plurality of overlapping input edges (figure 3 shows overlapping input edges of objects B, C, D), wherein the non-intersecting edge is shared by more than one non-overlapping graphic object (edge (B and MASK(D or C)) is shared by non-overlapping objects B, C, D of fig. 2, see figs. 2-3, paragraphs 50-56). Okubo also teaches a plurality of overlapping graphic objects (see figure 3, it shows four overlapping graphic objects, A, B, C & D); generating (creating) a list of input edges [mask edge list, MASK(D or C)] in accordance with a plurality of boundaries (outlines) of the plurality of overlapping graphic objects, wherein some of the input edges are overlapping (see figs. 2-3, paragraphs 52-56).

Re Claim 20, claim 20 recites identical features, as claim 17, except claim 20 merely deals with executing the method of claim 17 on a computer. Thus, arguments made for claim 17 are applicable for claim 20.

Re claim 21, Moore further teaches maintaining a list of active edges comprising a plurality of input edges that intersect a current scan-line (see figs. 10-11, paragraphs 118-119, 125-128) (also see figs. 12-13 with text).

Okubo teaches deriving from active edges (original graphic edge) a list of corresponding output edges (new graphic edge) to include the non-intersecting edges (see figs. 2-3, paragraphs 49-56).

Re claim 22, Moore further teaches creating a new output edge when an active edge does not have a corresponding output edge; and terminating the output edge when the output edge does not have a corresponding active edge (see paragraphs 62, 118-119, 125-128) (also see figs. 12-13 with text).

### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PAWANDEEP S. DHINGRA whose telephone number is (571)270-1231. The examiner can normally be reached on M-F, 9:30-7:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on (571) 272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2625

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/P. D./

Examiner, Art Unit 2625

/David K Moore/

Supervisory Patent Examiner, Art Unit 2625